

538

Split A

DART AEROSPACE LTD		Work Order:	24132
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D3197-041
04.02.23 KFH			D412-702-011
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A1		Qty:	15
Ref: D412-702 Rev.A page 9			Kit(s)
			Page 1 of 4

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveler Note: D412-702-011 Kit consists of (2) D3195-041; (2) D3195-043; (1) D3196-1; (1) D3196-3; (1) D3196-4; (2) D3197-041.	U	0508-31	38
2	DC	Photocopy bluefile and create labels per PPP D412-702-011 CHG001			
3	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (0.75" x 2.00") x 3.60" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) or (QQ-A-250/11) (M6061T6B0.750x02.000) Identify for D3195-1 Batch:			
4	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (1.50" x 1.25") x 3.60" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) or (QQ-A-250/11) (M6061T6B1.500x01.250) Identify for D3195-3 Batch:			
5	MV	Cut blank: (0.75" x 1.50") x 26.200" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) (M6061T6B0.750x01.500) Identify for D3196-1 Batch:	WIA	6	
6	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (0.75" x 1.50") x 34.750" long Bar Material: 6061-T6/T651 (QQ-A-200/8) or (QQ-A-225/8) (M6061T6B0.750x01.500) Identify (1) for D3196-3 Identify (1) for D3196-4 Batch:			
7	MV	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: 29.125" long Round Bar Material: 7075-T73 (QQ-A-200/11) or (QQ-A-225/9) 1" OD (M7075T73R1.000) Identify for D3197-1 Batch: M18453	cr	05/09/13	28
8	MV	Machine D3195-1 as per Folio FA334 and Dwg D3195 Identify as D3195-1			
9	QC2	Inspect parts as they come off the CNC machine			
10	MV	Deburr and Tumble			
11	QC8	Second check			
12	MV	Machine D3195-3 as per Folio FA334 and Dwg D3195 Identify as D3195-3			
13	QC2	Inspect parts as they come off the CNC machine	NIA	a	
14	MV	Deburr and Tumble			
15	QC8	Second check			

RELEASED

04.01.08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
05.09.15	25	"X" origin off by .100"	CP 05.09.15	SCRAP PART, WILL NOT FIT AIRCRAFT	ED 05.09.15	2 05.09.15	CP 05.09.15 per CR1042	2 05.09.15

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Date: 05/11/10

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD	Work Order:	24/132 D3197-1
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)	Part Number:	D412-702-011
04.02.23 JRF		
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A Ref: D412-702 Rev.A page 9	Qty:	30 Kit(s)

Page 2 of 4

Step	Location	Procedure	By	Date	Qty
16	MV	Machine D3196-1 as per Folio FA339 and Dwg D3196 Identify as D3196-1			
17	QC2	Inspect parts as they come off the CNC machine			
18	MV	Deburr			
19	QC8	Second check			
20	MV	Machine D3196-3 as per Folio FA339 and Dwg D3196 Identify as D3196-3			
21	QC2	Inspect parts as they come off the CNC machine			
22	MV	Deburr			
23	QC8	Second check			
24	MV	Machine D3196-4 as per Folio FA339 and Dwg D3196 Identify as D3196-4	NIAW		
25	QC2	Inspect parts as they come off the CNC machine			
26	MV	Deburr			
27	QC8	Second check			
28	MV	Machine D3197-1 as per Folio FA340 and Dwg D3197 Note: Need to be faced to size Identify as D3197-1	DP PCO 05.09.15	27	
29	QC2	Inspect parts as they come off the CNC machine	SD/EP 05.09.15	27	
30	MV	Deburr	SD 05.09.15	27	
31	QC8	Second check	SD 05.09.15	27	
32	FP	Chemical Conversion Coat as per QSI 005 4.1 D3195-1/-3; D3196-1/-3/-4; <u>D3197-1</u>	FC 05.09.20	27	
33	FP	Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3 D3195-1/-3; D3196-1/-3/-4; <u>D3197-1</u>	FC 05.09.21	27	
34	QC3	Inspect work to Step 33.	MM 05.09.21	27	
35	GA 04.04.05	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (4.986" x 0.500") x 0.125" thick as per Dwg D3195 Material: D3195 Rubber - 2.500" Punch holes as per Dwg Identify as D3195-5	Batch: _____	NIA	
36	GA 04.04.05	Cut (2) blanks per (1) D412-702-011 Kit Cut blanks: (4.986" x 1.000") x 0.125" thick as per Dwg D3195 Material: D3195 Rubber - 2.500" Punch holes as per Dwg Identify as D3195-7	Batch: _____	6	

RELEASED

04.01.08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD		Work Order:	24132 A D3197-1
Description: Dart 13-Man Shoulder Harness Kit (205/212/214/412)		Part Number:	D412-702-011
04.02.23 HJ			
Dwg: D3195 Rev. A; D3196 Rev. A; D3197 Rev. A1		Qty:	30 Kit(s)
Ref: D412-702 Rev.A page 9			Page 3 of 4

Step	Location	Procedure	By	Date	Qty
37	GA	Bond D3195-5 into D3195-1 as per Dwg D3195 Pick: Qty A/R Description Contact Cement Batch Identify as D3195-041			
38	GA	Bond D3195-7 into D3195-3 as per Dwg D3195 Pick: Qty A/R Description Contact Cement Batch Identify as D3195-043			
39	QC5	Inspect work to Step 38			
40	GA	Assemble (2) D3197-041 as per Dwg D3197. (Note: D3197-1 is on BOM as material from Step 7) Pick: Qty Part Number Description Batch 4 D2690-5 Lanyard 228225903 05/11/07 15 2 D3197-1 Bar 13241321 4 D3242-1 Tag(1)B23931 (1)B241321 12 AN960JD10 Washer M13634 4 DARS-0048H18478 Pip Pin M1860L/7M1879M 1182962 4 MS21042L3 Nut (or -3) M17652 4 MS27039-1-24 Bolt & Screw #0429 M3283 Identify as D3197-041			
41	QC5	Inspect work to Step 40			05-11-08 15
42	KP	Pick: Packing Kit (Note: D3195-041/-043, D3196-1/-3/-4 are on BOM as material from Steps 3-6, 35-36) Pick: Qty Part Number Description Batch 2 D3195-041 Bracket 2 D3195-043 Bracket 1 D3196-1 Bar 1 D3196-3 Bar 1 D3196-4 Bar 2 D3197-041 Bar 4 D3198-1 Fitting 18 D3215-041 Harness Assembly 4 D3215-043 Harness Assembly 4 AN4-5A Bolt 4 AN4-13A Bolt 8 AN4-20A Bolt 20 AN960JD416 Washer 12 MS21042L4 Nut (or -4) 8 MS24694-S152 Screw 2 D3265-1 Placard			
43	QC4	Inspect Kit 100% for Completeness on the W/O			
44	PK	Identify and pack for shipping as per PPP D412-702-011 10 units per D3197-041			05/11/08 15 CD

RELEASED

04.01.08

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

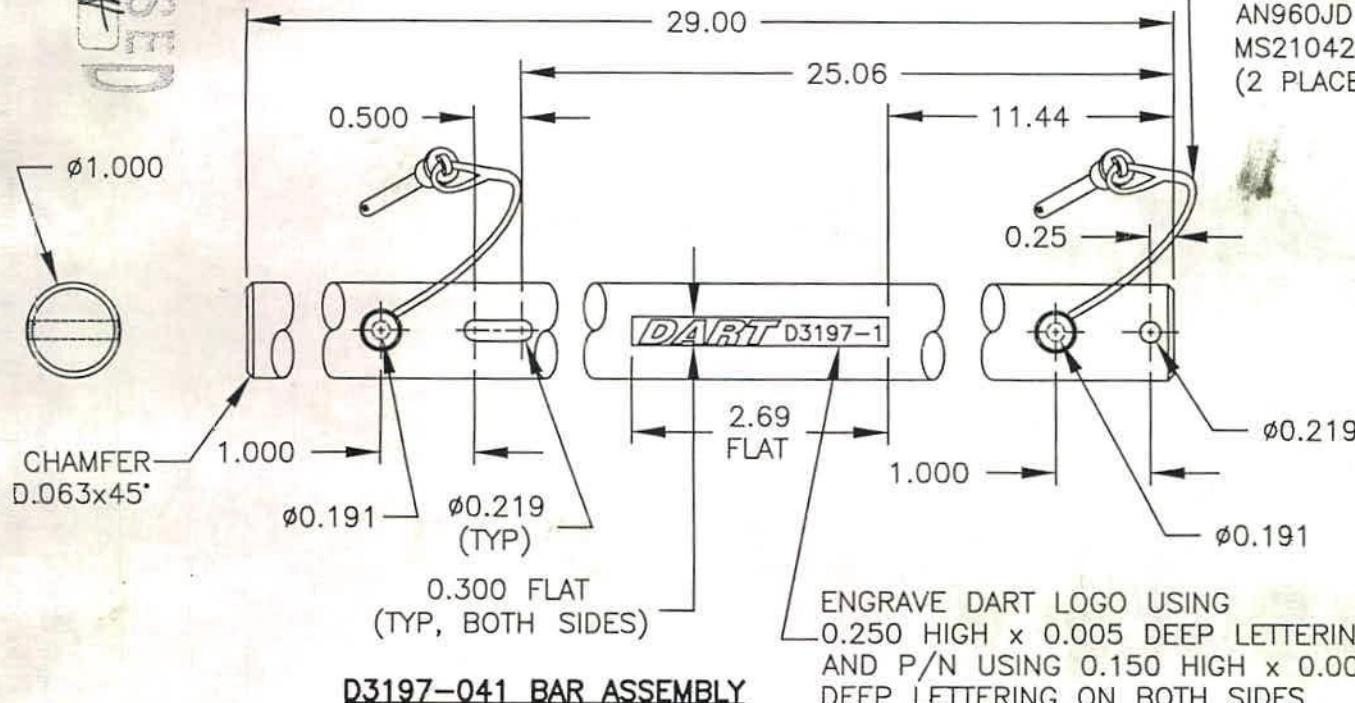
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries QA: N/C Closed: _____ Date: _____

1095 0955

SHOP COPY
RETURN TO
ENGINEERINGUNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE

WORK ORDER

NO. 24132RELEASED
03.10.10 *H*

A1 D3242-1 TAG (1)
DARS-004 PIP PIN (1)
MS27039-1-24 BOLT (1)
AN960JD10 WASHER (1)
D2690-5 LANYARD (1)
AN960JD10 WASHER (1)
BAR (REF)
AN960JD10 WASHER (1)
MS21042L3 NUT (1)
(2 PLACES)

DART

CA COPY ISSUED

DESIGN		DRAWN BY	DART AEROSPACE LTD	
CHECKED	APPROVED		DRAWING NO.	HAWKESBURY, ONTARIO, CANADA
			D3197	REV. A
DATE			TITLE	SHEET 1 OF 1
03.07.01			BAR	SCALE
A	03.07.01		NEW ISSUE	1:1
A1	04.01.12		ADD D3242-1 TAG	

D3197-1 BAR

- 1) MATERIAL: 7075-T73 ROUND BAR (QQ-A-200/11 or QQ-A-225/9) Ø1.000 O.D.
(REF DART SPEC. M7075T73R1.000)
- 2) POSSIBLE SUPPLIER FOR DARS-004 PIP PIN: REID TOOL SUPPLY.
IT IS ACCEPTABLE TO REPLACE WITH ANY STAINLESS STEEL DOUBLE-ACTING QUICK-RELEASE PIN
WITH A Ø0.188 DIAMETER PIN, 1.8"-2.0" GRIP LENGTH, MIN. OF 200 lbs PULL-OUT
STRENGTH, AND MIN. OF 5150 lbs DOUBLE SHEAR.
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT SANTEX (4.3.5.6) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) FOR TOOLING, IT IS ACCEPTABLE TO HAVE A 0.06 DEEP x 60° CENTER MARK AT EITHER
END OF THE BAR

DART AEROSPACE LTD	Work Order:	24132
Description: Bar	Part Number:	D3197-1
Inspection Dwg: D3197	Rev: A1	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Measured by:	<i>En</i>	Audited by:	<i>gml</i>	Prototype Approval:	N/A
Date:	07/01/14	Date:	07/01/14	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue (P/O D412-702-011)	KJ/RF	JT

RELEASED

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Aug 30, 2005
07:42 am

Work Order No : 0024132
 Project Name : D3197-1
 Project For : WK538
 Work Order Type : Main
 Main WO Number :
 House Part Number : D3197-1
 Description : Bar
 Manufactured : Yes
 Amount Req'd : 30
 Amount Done : 0
 Start Date : 08-29-05
 Est Finish Date : 09-21-05
 Act Finish Date :
 Drawings Reqd : No
 Ok for Approval :
 Approval Rec'd :

Department Code:
 Burden Flags : NNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00

Order Entry No :
 OE Value : 0.00
 Est Mark Up : 0.000%
 Actual Mark Up : 0.000%

\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden	=====	=====	=====		
Total Cost	0.00	0.00	0.00		
Mark up	0.000	0.000			
Selling Cost	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/ (Loss) :	0.00	0.00

Date: Wednesday, 11/9/2005 7:30:24 AM
 User: Linda Lacelle

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services			Drawing Name	: BAR		
Job Number	: 24132			Part Number	: D3197041		
Estimate Number	: 10390			Drawing Number	: D3197 REV A1		
P.O. Number	:			Project Number	:		
This Issue	: 11/9/2005	S.O. No.	:	Drawing Revision	: A1		
Prsh Rev.	: NC			Material	:		
First Issue	: / /	Type	: MACHINED PARTS				
Previous Run	:			Due Date	: 11/16/2005		Qty: 15 Um: Each
Written By	:						
Checked & Approved By	:						
Comment	: Est Rev: A New Issue 05-11-08 JLM						

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
1.0	M7075T73R1000	7075-T73 Round Bar 1" OD
2.0	BAND SAW	BAND SAW
Comment: BAND SAW Cut blanks: 29.125" long		
3.0	LATHE CONV.	CONVENTIONAL LATHE
Comment: CONVENTIONAL LATHE Turn To Length and Chamfers as per Dwg D3197		
4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		
5.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
Comment: HAAS CNC VERTICAL MACHINING #1		
1-Machine D3197-1 as per Folio FA340 and Dwg D3197		
2-Deburr		
6.0	QC2	INSPECT PAI
Comment: INSPECT PARTS AS THEY COME OFF MACHINE		

MIS T
ROSS

Date: Wednesday, 11/9/2005 7:30:24 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BAR

Job Number: 24132

Part Number: D3197041

Job Number:



Seq. #: Machine Or Operation:

Description :

7.0 QC8 SECOND CHECK



Comment: SECOND CHECK

8.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

9.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

10.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

11.0 D26905 Lanyard ass'y

12.0 D32421 Tag

13.0 AN960JD10 Washer

14.0 DARS004 Pip Pin

15.0 MS21042L3 Nut

16.0 MS27039124 Screw

17.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Assemble D3197-041 as per Dwg D3197

18.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

19.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

Date: Wednesday, 11/9/2005 7:30:24 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BAR

Job Number: 24132

Part Number: D3197041

Job Number:



Seq. #:

Machine Or Operation:

Description :

20.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Date: Wednesday, 11/9/2005 3:52:50 PM
 User: Linda Lacelle

**INVENTORY ITEMS PICKED
FOR SLIP NUMBER 9**

Project No. :
Customer : Dart Helicopters Services
Part Number : D3197041
Job Number : 24132

Drawing Number : D3197 REV A1
Drawing Name : BAR
Due Date : / /
Qty : 15
Slip # : 9

		Location	Store	Picking	Lot No.	Serial No.	Req'd	Taken
1.0	M7075T73R1000 7075-T73 Round Bar 1" OD							
	Available 119.00	MAIN			18453	38.12	36.4000 f	
11.0	D26905 Lanyard ass'y							
	Available 73.00	MAIN			22590	60.00	27.0000 Each	
		MAIN			24165	60.00	20.0000	
		MAIN			24284	60.00	13.0000	
12.0	D32421 Tag							
	Available 61.00	MAIN			24321	60.00	60.0000 Each	
13.0	AN960JD10 Washer							
	Available 2097.00	MAIN			17634	180.00	180.0000 Each	
14.0	DARS004 Pip Pin						SHORTAGE.	
	Available 29.00	MAIN			18962	60.00	12.0000 Each	
		MAIN			18980	60.00	17.0000	
15.0	MS21042L3 Nut							
	Available 2940.00	MAIN			17652	60.00	22.0000 Each	
		MAIN			17852	60.00	38.0000	
16.0	MS27039124 Screw							
	Available 83.00	MAIN			3283	60.00	60.0000 Each	

Date Wednesday, 11/9/2005 3:56:43 PM
 User Linda Lacelle

Value - Transaction Report

Report Criteria As Follows

Customer	ALL				Employee Id	ALL								
Part Number	ALL				Project Number	ALL								
Job Number	24132				Operation	ALL								
Job Type	ALL				Class / Depart.	ALL								
Date Range From	November 09, 2005				To	November 09, 2005								
						Sorted By	Customer+Job Order							
Job No.	Customer	Part Number	Employee	Type	Description	Date	L Time	M Time	Qty	Labour	Overhead	Ext. Cost	Inv. Cost	Sub. Cost
Customer	Dart Helicopters Services													
24132	CU-DAR	D3197041	LACE01	INVENT.	M7075T73R1000	11/9/2005	0.00	0.00	66.40	\$0.00	\$0.00	\$0.00	\$683.79	\$0.00
24132	CU-DAR	D3197041	MISLAB	INVENT.	M7075T73R1000	11/9/2005	0.00	0.00	15.00	\$0.00	\$0.00	\$0.00	\$429.35	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	D26905	11/9/2005	0.00	0.00	60.00	\$0.00	\$0.00	\$0.00	\$208.80	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	D32421	11/9/2005	0.00	0.00	60.00	\$0.00	\$0.00	\$0.00	\$732.60	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	AN960JD10	11/9/2005	0.00	0.00	180.00	\$0.00	\$0.00	\$0.00	\$9.00	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	DARS004	11/9/2005	0.00	0.00	29.00	\$0.00	\$0.00	\$0.00	\$1,098.04	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	MS21042L3	11/9/2005	0.00	0.00	60.00	\$0.00	\$0.00	\$0.00	\$4.80	\$0.00
24132	CU-DAR	D3197041	LACE01	INVENT.	MS27039124	11/9/2005	0.00	0.00	60.00	\$0.00	\$0.00	\$0.00	\$12.00	\$0.00
Subtotal						0.00	0.00	530.40	\$0.00	\$0.00	\$0.00	\$0.00	\$3,178.38	\$0.00
Total Records Retrieved :				8			0.00	0.00	530.40	\$0.00	\$0.00	\$0.00	\$3,178.38	\$0.00

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

Nov 08, 2005
11:04 am

Work Order No	:	0024132	Department Code:
Project Name	:	D3197-1	Burden Flags : NNNNNNNN
Project For	:	WK538	WO Status : Open
Work Order Type	:	Main	Invoice State : Not Invoiced
Main WO Number	:		Invoice Date :
House Part Number	:	D3197-1	Invoice Number :
Description	:	Bar	Invoice Amount : 0.00
Manufactured	:	Yes	
Amount Req'd	:	30	Order Entry No :
Amount Done	:	0	OE Value : 0.00
Start Date	:	08-29-05	Est Margin : 0.000%
Est Finish Date	:	09-21-05	Actual Margin : 0.000%
Act Finish Date	:		
Drawings Reqd	:	No	
Ok for Approval	:		
Approval Rec'd	:		\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	: 0.00	0.00	0.00	0.00	0.00
Engineering Hours	: 0.00	0.00	0.00		
Engineering Cost	: 0.00	0.00	0.00	0.00	0.00
Production Hours	: 0.00	23.13	100.00		
Production Cost	: 0.00	429.35	100.00	0.00	429.35
Packaging Hours	: 0.00	0.00	0.00		
Packaging Cost	: 0.00	0.00	0.00	0.00	0.00
OverHead Hours	: 0.00	0.00	0.00		
OverHead Cost	: 0.00	0.00	0.00	0.00	0.00
CNC Hours	: 0.00	19.50	100.00		
CNC	: 0.00	0.00	0.00	0.00	0.00
Misc. Hours	: 0.00	0.00	0.00		
Misc.	: 0.00	0.00	0.00	0.00	0.00
Burden	: 0.00	0.00	0.00		
Total Cost	: 0.00	429.35	100.00		
Margin	: 0.000	0.000			
Selling Cost	: 0.00	429.35			

	Estimated	Actual
Labour Hrs/Amount Done	: 0.00	0.00
Profits/ (Loss)	: 0.00	(-429.35)

*Mis opening bal
W
6/1/09*